BODY MASS INDEX, CALF MUSCLE CHARACTERISTICS AND FUNCTIONAL DECLINE IN PERIPHERAL ARTERIAL DISEASE

ACC Poster Contributions
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Background: Associations of obesity with calf muscle composition in patients with lower extremity peripheral arterial disease (PAD) are unknown. We sought to determine whether higher body mass index (BMI) is associated with more adverse calf muscle characteristics among men and women with PAD, and whether higher baseline BMI is associated with more adverse change in muscle characteristics at four year follow-up, compared to ideal BMI.

Methods: Prospective cohort study of 679 persons (417 with PAD) followed for up to four years. Outcomes were baseline and change in calf muscle area, calf percent fat and calf muscle density measured by Computed Tomography. BMI was measured at baseline and annually. Results adjust for age, race, gender, comorbidities and other confounders.

Results: Among PAD subjects, higher BMI categories (ideal, overweight, obese) were associated with higher baseline calf muscle area (4922 mm² vs. 5644 mm² vs. 5760 mm² respectively, p trend <0.001), higher baseline percent fat (7.06% vs. 9.84% vs. 17.23% respectively, p trend <0.001), lower baseline calf muscle density (33.38 mg/cm³ vs. 33.21 mg/cm³ vs. 30.93 mg/cm³ respectively, p trend <0.001), and greater decrease in calf muscle area at four-year follow-up (-266 mm² per year vs. -259 mm² per year vs. -383 mm² per year respectively, p trend =0.028).

Conclusions: Higher BMI is associated with more adverse calf muscle characteristics at baseline and greater decline in calf muscle area at four-year follow-up in persons with lower extremity PAD.